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Jameco Part Number 203570

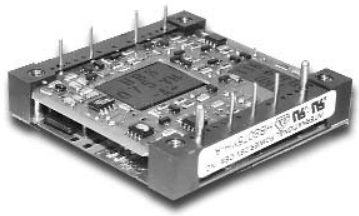
HBS SERIES - 75 WATT

DESCRIPTION

HBS single output DC/DC converters provide up to 75 watts of output power in an industry standard half-brick package and footprint. These units feature excellent efficiency, Class A conducted noise specs, and fixed switching frequency. The HBS features open-frame packaging, along with planar magnetics to provide maximum useable power with minimal thermal constraints. The HBS converters are especially suited to telecom, networking, and industrial applications, and are fully compatible with production board washing processes.

FEATURES

- Industry Standard Half-Brick
- Open-Frame Packaging
- 100°C Baseplate Operation
- Water Washable
- "True-Trim" Option
- 1500V Isolation
- Positive Or Negative Logic



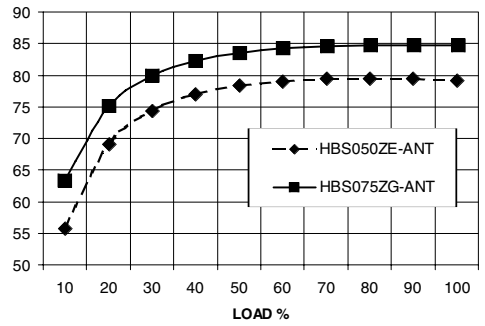
TECHNICAL SPECIFICATIONS

Input	
Voltage Range	
24 VDC Nominal	18 - 36 VDC
48 VDC Nominal	34 - 75 VDC
Reflected Ripple	20% I_{in} Max.
Input Reverse Voltage Protection	Shunt Diode

Output	
Setpoint Accuracy	±1%
Line Regulation V_{in} Min. - V_{in} Max., I_{out} Rated	0.2% V_{out}
Load Regulation I_{out} Min. - I_{out} Max., V_{in} Nom.	0.2% V_{out}
Remote Sense Headroom	0.5 VDC
Minimum Output Current	10 % I_{out} Rated
Dynamic Regulation, Loadstep	25% I_{out}
Pk Deviation	4% V_{out}
Settling Time	500 µs
Voltage Trim Range	±10%
Short Circuit / Overcurrent Protection	Hiccup
Current Limit Threshold Range, % of I_{out} Rated	110 - 140%
OVP Trip Range	115 - 140% V_{out} Nom.
OVP	Hiccup

General	
Turn-On Time	10 ms
Remote Shutdown	Positive Or Negative Logic
Remote Shutdown Reference	V_{in} Negative
Switching Frequency	500 kHz
Isolation, Input - Output	1500 VDC
Isolation, Input - Case	1050 VDC
Isolation, Output - Case	500 VDC
Temperature Coefficient	0.002%/°C
Case Temperature	
Operating Range	-40 To +100°C
Storage Range	-40 To +125°C
Thermal Shutdown Range	105 To 115°C
Vibration, 3 Axes, 5 Min Each	5 g, 10 - 55 Hz
MTBF† (Bellcore TR-NWT-000332)	2.1 x 10^6 hrs
Safety	UL, cUL, VDE
Weight (approx.)	2.5 oz

Efficiency vs. Load (48V Input)



Notes

† MTBF predictions may vary slightly from model to model.

Specifications typically at 25°C, normal line, and full load, unless otherwise stated.

Soldering Conditions: I/O pins, 260°C, ten seconds; fully compatible with commercial wave-soldering equipment.

Units are water-washable and fully compatible with commercial spray or immersion post wave-solder washing equipment.

REV. 12/01

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MODELS - (See the last page of section for options.)

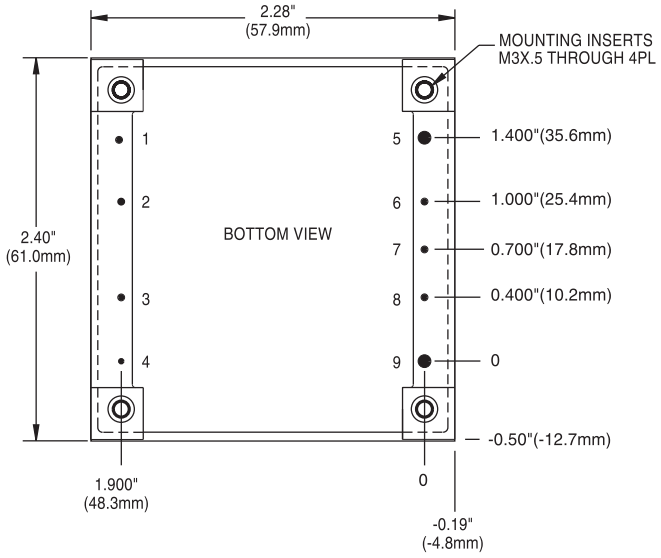
MODEL	INPUT VOLTAGE (VOLTS)	INPUT VOLTAGE RANGE (VOLTS)	MAXIMUM INPUT CURRENT (AMPS)*	OUTPUT VOLTAGE (VOLTS)	RATED OUTPUT CURRENT (AMPS)	RIPPLE & NOISE pk-pk (mV)	TYPICAL EFFICIENCY**
HBS066YE-A	24	18-36	4.6	3.3	20	100	80%
HBS075YG-A	24	18-36	5.4	5	15	100	83%
HBS075YH-A	24	18-36	5.4	12	6.25	150	85%
HBS075YJ-ANT	24	18-36	5.4	15	5	150	86%
HBS066ZE-A	48	34-75	2.5	3.3	20	100	80%
HBS075ZG-A	48	34-75	2.7	5	15	100	84%
HBS075ZH-A	48	34-75	2.7	12	6.25	150	86%
HBS075ZJ-A	48	34-75	2.7	15	5	150	87%
HBS075ZE-A	48	34-75	2.8	3.3	22.7	100	80%

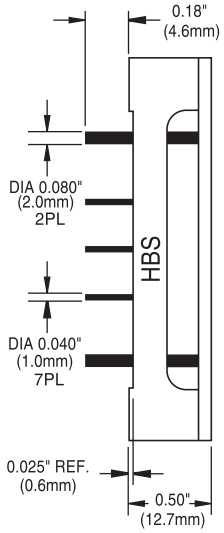
NOTES:

* Maximum input current at minimum input voltage, maximum rated output power.

** At nominal V_{in}, rated output.

MECHANICAL DRAWING





Thermal Impedance	
Natural Convection	6.6 °C/W
100 LFM	5.7 °C/W
200 LFM	4.2 °C/W
300 LFM	3.1 °C/W
400 LFM	2.6 °C/W

Note:
Thermal impedance data is dependent on many environmental factors. The exact thermal performance should be validated for specific application.

Pin	Function
1	$-V_{in}$
2	Case
3	On/Off
4	$+V_{in}$
5	$-V_{out}$
6	-Sense
7	Trim
8	+Sense
9	$+V_{out}$

Tolerances	
Inches:	(Millimeters)
.XX ± 0.020	.X ± 0.5
.XXX ± 0.010	.XX ± 0.25
Pin:	
± 0.002	± 0.05

(Dimensions as listed unless otherwise specified.)

OPTIONS

When ordering equipment options, use the following suffix information. Select the option(s) that you prefer and add them to the model number. Example ordering options are located below the options table.

OPTION	SUFFIX	APPLICABLE SERIES	REMARKS
Negative Logic	N	HAS, HBD, HBS, HES, HLS, HLD, LES, QBS, QES, QLS, TES, TQD	TTL "Low" Turns Module ON TTL "High" Turns Module OFF
Lucent-Compatible	T	HAS, HBD, HBS, HES, HLS, QBS, QES, QLS	
Terminal Strip	TS	XWS, XWD, XWT	
Trim	1	IAS, LES	
Enable	2	IAD, IAS, LES, SMS	
Trim and Enable	3	IAS, LES	
Current Share	4	SMS	
Headerless	Y	Encapsulated EWS, IWS, OWS	
Pin Length and Heatsink Options			Standard Pin Length is 0.180" (4.6mm)
0.110" (2.8mm) Pin Length	8	All Units (Except SMS)	
0.150" (3.8mm) Pin Length	9	All Units (Except SMS)	
0.24" (6.1mm) Horizontal Heatsink	1H	All Units (All Units Except DIP, HLS, HLD, QLS, SIP, SM, TLD, and TKD Packages)	Includes Thermal Pad
0.24" (6.1mm) Vertical Heatsink	1V	All Units (All Units Except DIP, HLS, HLD, QLS, SIP, SM, TLD, and TKD Packages)	Includes Thermal Pad
0.45" (11.4mm) Horizontal Heatsink	2H	All Units (All Units Except DIP, HLS, HLD, QLS, SIP, SM, TLD, and TKD Packages)	Includes Thermal Pad
0.45" (11.4mm) Vertical Heatsink	2V	All Units (All Units Except DIP, HLS, HLD, QLS, SIP, SM, TLD, and TKD Packages)	Includes Thermal Pad
0.95" (24.1mm) Horizontal Heatsink	3H	All Units (All Units Except DIP, HLS, HLD, QLS, SIP, SM, TLD, and TKD Packages)	Includes Thermal Pad
0.95" (24.1mm) Vertical Heatsink	3V	All Units (All Units Except DIP, HLS, HLD, QLS, SIP, SM, TLD, and TKD Packages)	Includes Thermal Pad

Example Options:

HBS050ZG-ANT3V = HBS050ZG-A with negative logic, Lucent-compatible trim, and 0.95” vertical heatsink.
LES015YJ-3N = LES015YJ with optional trim and enable, negative logic.
QBS066ZG-AT8 = QBS066ZG-A with Lucent-compatible trim and 0.110” pin length.

NUCLEAR AND MEDICAL APPLICATIONS - Power-One products are not authorized for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems without the express written consent of the President of Power-One, Inc.

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